

YEAR - I

BASIC PHYSICS

COURSE DESCRIPTION

The course is designed to assist students to acquire the knowledge of basic physics in the practice of critical care technology

OBJECTIVES

At the end of the course, the student will be able to

1. Describe the properties that characterize the three states of matter.
2. Describe the gas behavior in changing conditions.
3. Describe the principles that govern the fluid dynamics.
4. Describe the basics concept of pressure, volume, thermodynamics and humidity.

COURSE CONTENT

Block 1: Basic physics

Unit 1: States of matter

Unit 2: Changes of state

Unit 3: Gas behavior under changing conditions

Gas laws: Boyles / Charles / Gay Lussais, Daltons laws & application

Unit 4: Fluid dynamics

Concepts of pressure, volume, flow, Temperature, Humidity Measurements - units & devices

Introduction to Medical term describing normal & abnormal process

Block 2: Medical Gases:

Unit 1: Characteristics of Medical gases

Unit 2: Storage of medical gases

Section 1: Cylinders, Liquid gas storage, oxygen concentrator

Unit 3: Distribution of regulation of medical gases

Section 1: Piped distribution system

WEIGHTAGE OF MARKS

Theory: Paper 2 in Year 1 combined with physiology

Theory: Physiology - 75 marks + Physics - 25 marks (Total 100 marks)

Practicals

No practical in physics

Internal Assessment for Paper 2 in Year 1:

Physiology - 35 marks + Physics - 15 marks (Total 50 marks)

Internal assessment for Physics

Term test 10 marks

Assignment 5 marks

PRACTICALS - NO PRACTICALS

Reference Books

1. Davis P: Basic Physics and Measurement Anesthesia.
2. Thayalan K: Bio Medical Physics for Nurses.
3. Kacmarek R. M: Egan's Fundamentals of Respiratory Care. Elsevier(2013)